

## CLAIMS

What is claimed is:

- 1        1.        A cable harness comprising:
  - 2        a frame capable of being attached to a rack, the rack having a number of blades disposed
  - 3        therein, the frame including a number of channels, each channel for routing at
  - 4        least one cable from one of the blades and toward a rear of the rack; and
  - 5        a channel array capable of being coupled with the frame, the channel array including a
  - 6        number of channels, each channel for routing at least one cable from one of the
  - 7        blades and towards one side of the rack.

1           2.       The cable harness of claim 1, further comprising:

2        a second channel array capable of being coupled with the frame, the second channel array

3           including a number of channels, each channel for routing at least one cable from

4           one of the blades and towards an opposing side of the rack.

1           3.       The cable harness of claim 2, wherein the frame defines a first bay for  
2 receiving the channel array and a second bay for receiving the second channel array.

1                  4.        The cable harness of claim 3, wherein each of the first and second bays  
2    includes at least one guide element, the at least one guide element of each bay to position  
3    a channel array in that bay.

1           5.       The cable harness of claim 3, wherein each of the channel array and the  
2       second channel array is coupled with the frame using at least one fastener.

1           6.       The cable harness of claim 3, wherein each of the channel array and the  
2       second channel array is coupled with the frame by a snap fit.

1           7.       The cable harness of claim 1, wherein each of the channels of the frame  
2       routes the at least one cable into an open cavity of the rack and toward the rear of the  
3       rack.

1           8.       The cable harness of claim 7, wherein, at the rear of the rack, the at least  
2       one cable associated with each of the channels is routed upwards towards a top of the  
3       rack.

1           9.       The cable harness of claim 1, wherein each channel of the channel array  
2       includes a hook for receiving an anchoring device, the anchoring device for holding a  
3       number of cables.

1           10.      The cable harness of claim 1, wherein each channel of the channel array  
2       includes a pair of opposing slots for receiving an anchoring device, the anchoring device  
3       for holding a number of cables.

1           11.    The cable harness of claim 1, further comprising a cover capable of being  
2 attached to the frame, the cover overlying the channel array.

1           12.    The cable harness of claim 1, wherein each channel of the frame  
2 comprises a generally rectangular-shaped open channel having a floor and two opposing  
3 side walls extending upwards from the floor.

1           13.    The cable harness of claim 1, wherein each channel of the channel array  
2 comprises a generally rectangular-shaped open channel having a floor and two opposing  
3 side walls extending upwards from the floor.

1           14.    The cable harness of claim 13, wherein each of the channels of the channel  
2 array extends along an approximate ninety degree arc.

1           15.    The cable harness of claim 13, wherein the floor is generally semicircular  
2 in shape.

1           16.    The cable harness of claim 1, wherein each of the frame and the channel  
2 array comprises a plastic material.

1           17.    The cable harness of claim 16, wherein each of the frame and the channel  
2 array is constructed using a molding process.

1           18.    A cable clip comprising:  
2    a longitudinally extending body having a first end and an opposing second end;  
3    a number of clasps disposed on the body between the first and second ends, each of the  
4            clasps for holding a cable;  
5    a first coupling mechanism disposed at the first end of the body, the first coupling  
6            mechanism for attaching the cable clip to one end of another cable clip; and  
7    a second coupling mechanism disposed at the second end of the body, the second  
8            coupling mechanism for attaching the cable clip to one end of another cable clip.

1           19.    The cable clip of claim 18, wherein the first coupling mechanism is  
2    identical to the second connector.

1           20.    The cable clip of claim 19, wherein the first coupling mechanism is  
2    oriented 180 degrees relative to the second coupling mechanism.

1           21. The cable clip of claim 20, wherein each of the first and second coupling  
2 mechanisms comprises:  
3           a resiliently flexible arm extending from one of the ends of the body and disposed on one  
4           side of the body, the flexible arm having a protrusion disposed at an outer end  
5           thereof; and  
6           a notch disposed on an opposing side of the body proximate the one end, the notch to  
7           receive a protrusion on a resiliently flexible arm of a coupling mechanism on  
8           another cable clip.

1           22. The cable clip of claim 21, wherein each of the first and second coupling  
2 mechanisms further comprises:  
3           a pair of opposing guide posts disposed on the body proximate the flexible arm and  
4           extending from the one end of the body, the pair of opposing arms to mate with a  
5           pair of opposing guide surfaces disposed on another cable clip; and  
6           a pair of opposing guide surfaces disposed on the body adjacent to the opposing guide  
7           posts, the opposing guide surfaces to mate with a pair of opposing guide posts  
8           disposed on another cable clip.

1           23. The cable clip of claim 21, wherein the resiliently flexible arm includes a  
2 handle, the handle comprising an angled extension extending from the outer end of the  
3 resiliently flexible arm.

1           24. The cable clip of claim 18, wherein each of the clasps comprises:  
2           a first resiliently flexible arm extending from the body;  
3           a second resiliently flexible arm extending from the body and spaced apart from the first  
4           resiliently flexible arm;  
5           wherein a space between the first and second arms has a size greater than a diameter of  
6           the cable.

1           25. The cable clip of claim 24, wherein an outer end of the first arm is  
2           separated from an outer end of the second arm by a distance less than the diameter of the  
3           cable.

1           26. The cable clip of claim 24, wherein an equal number of the clasps is  
2           disposed on each of opposing sides of the body.

1           27. The cable clip of claim 18, wherein the body comprises a plastic material.

1           28. The cable clip of claim 27, wherein the body is formed using a molding  
2           process.

1           29.    A bundle clip comprising:  
2    a cylindrical shaped body extending from a first end to an opposing second end and  
3           defining an interior region having size sufficient to receive a number of cables;  
4    an entry disposed between the first and second ends and opening into the interior region,  
5           the entry having a size less than a diameter of one of the cables;  
6    a first coupling mechanism disposed on a side of the body, the first coupling mechanism  
7           for attaching the bundle clip to another bundle clip; and  
8    a second coupling mechanism disposed on an opposing side of the body, the second  
9           coupling mechanism for attaching the bundle clip to another bundle clip.

1           30.    The bundle clip of claim 29, wherein the body comprises a resiliently  
2    flexible material.

1           31.    The bundle clip of claim 30, wherein upon insertion of a cable into the  
2    entry, the body elastically deforms to expand the entry to a size sufficient to receive the  
3    cable.

1           32.    The bundle clip of claim 30, wherein the resiliently flexible material  
2    comprises a plastic material.

1           33.    The bundle clip of claim 32, wherein the body is formed using a molding  
2    process.

1           34.     The bundle clip of claim 29, wherein each of the first and second ends of  
2     the body proximate the entry are rounded.

1           35.     The bundle clip of claim 29, wherein each of the first and second ends of  
2     the body proximate the entry are semicircular in shape.

1           36.     The bundle clip of claim 29, wherein the first coupling mechanism  
2     comprises:  
3     a keyway disposed on an exterior of the body, the keyway to slidably receive a mating  
4     key disposed on a second bundle clip; and  
5     a resiliently flexible arm disposed on the exterior of the body proximate the keyway, the  
6     arm having a protrusion extending from an outer end thereof;  
7     wherein, upon insertion of the key of the second bundle clip into the keyway, the  
8     protrusion on the outer end of the arm mates with a corresponding notch on the  
9     second bundle clip.

1           37. The bundle clip of claim 29, wherein the second coupling mechanism  
2 comprises:  
3           a key disposed on the exterior of the body, the key to slidably mate with a corresponding  
4           keyway disposed on a second bundle clip; and  
5           a notch disposed on the exterior proximate the key;  
6           wherein, upon insertion of the key into the keyway of the second bundle clip, the notch  
7           mates with a protrusion on an end of a resiliently flexible arm extending from the  
8           second bundle clip.

1           38. The bundle clip of claim 29, wherein the first and second coupling  
2 mechanisms are separated by an angle of approximately 180 degrees.

1           39. The bundle claim of claim 29, further comprising:  
2           a first support element extending from the body and positioned proximate the first  
3           coupling mechanism, wherein the first support element, upon coupling the first  
4           coupling mechanism with a second bundle clip, abuts an exterior surface of the  
5           second bundle clip; and  
6           a second support element extending from the body and positioned proximate the second  
7           coupling mechanism, wherein the second support element, upon coupling the  
8           second coupling mechanism with a third bundle clip, abuts an exterior surface of  
9           the third bundle clip.

1           40.    The bundle clip of claim 29, wherein the cylindrical shaped body  
2   comprises an oval shape.

1           41.    A rack mounted installation comprising:  
2    a rack, the rack comprising a generally rectangular housing having an interior cavity;  
3    a number of blades disposed in the interior cavity of the housing, each of at least some of  
4    the blades including a number of connectors, each connector for coupling with a  
5    cable; and  
6    a cable harness, the cable harness including  
7                a frame attached to the rack, the frame including a number of channels,  
8                each channel for routing at least one cable from one of the blades  
9                and toward a rear of the rack, and  
10              a channel array attached to the frame, the channel array including a  
11              number of channels, each channel for routing at least one cable  
12              from one of the blades and towards one side of the rack.

1           42.    The installation of claim 41, further comprising a second channel array  
2    attached to the frame, the second channel array including a number of channels, each  
3    channel for routing at least one cable from one of the blades and toward an opposing side  
4    of the rack.

1           43.     The installation of claim 41, further comprising:  
2     a first cable clip to hold at least one cable extending from one of the blades; and  
3     a second cable clip to hold at least one cable extending from one of the blades, the second  
4           cable clip having a coupling mechanism on one end coupled with a mating  
5           coupling mechanism on one end of the first cable clip.

1           44.     The installation of claim 43, further comprising:  
2     a first bundle clip to hold a group of cables associated with the first cable clip; and  
3     a second bundle clip to hold a group of cables associated with the second cable clip, the  
4           second bundle clip having a coupling mechanism on one side coupled with a  
5           mating coupling mechanism on one side of the first bundle clip.

1           45.     The installation of claim 43, wherein each of the first and second cable  
2     clips is holding cables associated with a same one of the blades.

1           46.     The installation of claim 45, wherein all cables associated with the same  
2     one blade are placed in one channel of the cable harness, the one channel comprising a  
3     channel of the channel array or a channel of the frame.

1           47.     A method comprising:

2     securing a first set of cables extending from a blade in a first cable clip, the blade  
3                 disposed in a rack;  
4     securing a second set of cables extending from the blade in a second cable clip;  
5     attaching the second cable clip to the first cable clip;  
6     inserting the first set of cables into a first bundle clip;  
7     inserting the second set of cables into a second bundle clip; and  
8     attaching the second bundle clip to the first bundle clip.

1           48.     The method of claim 47, further comprising routing the first and second  
2     sets of cables into one of a number of channels of a cable harness, the one channel  
3     routing the first and second sets of cables toward a raceway disposed adjacent to the rack.

1           49.     The method of claim 48, wherein the one channel routes the first and  
2     second sets of cables toward a side of the rack.

1           50.     The method of claim 48, wherein the one channel routes the first and  
2     second sets of cables toward a rear of the rack.

1           51.    A method comprising:  
2    disposing a first group of cables within a first channel of a cable harness, the cable  
3           harness installed on a rack, the first channel routing the first group of cables  
4           towards a side of the rack; and  
5    disposing a second group of cables within a second channel of the cable harness, the  
6           second channel routing the second group of cables towards a rear of the rack.

1           52.    The method of claim 51, wherein the first group of cables are each  
2    connected with a first blade disposed in the rack and the second group of cables are each  
3    connected with a second blade disposed in the rack.

1           53.    The method of claim 52, further comprising:  
2    securing each of the first group of cables within one of a first number of interconnected  
3           cable clips; and  
4    securing each of the second group of cables within one of a second number of  
5           interconnected cable clips.

1           54.    The method of claim 53, further comprising:  
2    holding the first group of cables within a corresponding first number of interconnected  
3           bundle clips; and  
4    holding the second group of cables within a corresponding second number of  
5           interconnected bundle clips.